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to measure, such as short-wave ultraviolet radiation. They also create important methodological refinements such as integration and registration of all forms of radiation, i.e., total and ultraviolet radiation balance, black-body radiation, and effective radiation of the earth.

From prolonged observations at Minsk and Alma-Ata, Gul'nitskiy refuted existing data on a very important problem for the weather service, namely, the problem of the seasonal behavior of effective radiation. He proved convincingly that the Angstrom pyrometer used for observations of this effect changes its sensitivity under the influence of seasonal humidity variations, and that this is the reason for the incorrect conclusions. He also substantially revised data on the diurnal behavior of effective radiation. Important results were obtained from his observations on the radiation characteristics of air masses and from his determination of the solar constant and the boundary transparency coefficient. Gul'nitskiy suggested a method for determining the solar constant which permits use of the vast material obtained at actinometric stations (mainly total direct solar radiation measured for different air masses).

In the opinion of official opponent V. G. Fesenkov, the method proposed can easily be brought up to the required degree of accuracy and its development will permit organization of important studies on the radiation balance at various heights over the earth's surface. These studies should produce valuable materials for clarifying the energy regime of our planet.

Official opponent I. A. Khvostikov, Doctor of Physicomatematical Sciences, noted the great theoretical interest and practical importance of the dissertation for the climatological service.

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